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Regulatory Information Report

The Bushfire Performance of various Hume Doors if tested in accordance with AS 1530.8.1:2007 for BAL A40 exposure

Report sponsor: Hume Doors & Timber (Aust) Pty Ltd, 120 Hume Highway, Lansvale, NSW 2166

Hume Doors & Timber (Vic) Pty Ltd, 33 Remington Drive, South Dandenong, VIC 3175

Hume Doors & Timber (Qld) Pty Ltd, 86 – 92 Mudgee Street, Kingston, QLD 4114

Hume Doors & Timber (SA) Pty Ltd, 89 Heaslip Road, Burton, SA 5110

Hume Doors & Timber (WA) Pty Ltd, 75 Briggs Street, Carlisle, WA 6101

Job number: FAS190105 Revision: RIR2.3 Issue date: 6 May 2022 Expiry date: 31 July 2024

Amendment schedule

Version	Date	Information relating to report			
R1.0	Issue: 09/07/2019	Reason for issue	Report issued to Hume Doors Pty Ltd for review and comment.		
			Prepared by	Reviewed by	Approved by
		Name	Yomal Dias	Omar Saad	Omar Saad
R1.1	Issue: 16/07/2019	Reason for issue	Assessment of plywood facing and timber veneer options.		
			Prepared by	Reviewed by	Approved by
		Name	Yomal Dias	Omar Saad	Omar Saad
R2.0	Issue: 28/01/2021	Reason for issue	Updated to include variation to door jamb width.		
			Prepared by	Reviewed by	Approved by
		Name	Yomal Dias	Omar Saad	Mahmoud Akl
R2.1	Issue: 09/02/2021	Reason for issue	Door jamb width revision extended to door head as well.		
			Prepared by	Reviewed by	Approved by
		Name	Yomal Dias	Omar Saad	Omar Saad
RIR2.2	Issue: 29/04/2022	Reason for issue	Inclusion of rebranded door model names and additional door model BFR400.		
			Prepared by	Reviewed by	Approved by
		Name	Edward Kwok	Yomal Dias	Omar Saad
RIR2.3	Issue: 06/05/2022	Reason for issue	Minor update on table alignment		
			Prepared by	Reviewed by	Approved by
	Expiry: 31/07/2024	Name	Edward Kwok	Yomal Dias	Yomal Dias
		Signature			

Contact information

Warringtonfire Australia Pty Ltd – ABN 81 050 241 524

Melbourne – NATA registered laboratory
Unit 2, 409-411 Hammond Road
Dandenong South, VIC 3175
Australia

T: +61 3 9767 1000

Brisbane
Suite 6, Level 12
133 Mary Street
Brisbane, QLD 4000
Australia

T: +61 7 3238 1700

Perth
Unit 22, 22 Railway Road
Subiaco, WA 6008
Australia

T: +61 8 9382 3844

Sydney
Suite 802, Level 8
383 Kent Street
Sydney, NSW 2000
Australia

T: +61 2 9211 4333

Canberra
Unit 2, 11 Murray Crescent
Griffith, ACT 2603
Australia

T: +61 2 6260 8488

General conditions of use

Executive summary

This report contains the minimum information sufficient for regulatory compliance and refers to the Assessment report FAS190105 R2.3.

The referenced report documents the findings of the assessment undertaken to determine the likely bushfire attack performance of various Hume Doors if tested in accordance with AS 1530.8.1:2007 for BAL: A40 exposure.

The assessment conducted in Section 5 of the referenced report found that the proposed variations are likely to achieve BAL: A40 as shown in Table 1, if tested in accordance with AS1530.8.1:2007.

This assessment was carried out at the request of the sponsors listed in Table 3.

Table 1 Variations and assessment outcome

Door range	Door model / Item	Additional notes	Outcome / BAL rating
Newington	1. XN1 2. XN2 3. XN5 4. XN7 5. XN9 6. XN13 7. XN16	The Newington XN9 door considered for the assessment consists of the 1675 mm tall × 100 mm wide glazing used in XN1 doors and not the larger glazing shown in Figure 1 for this door type.	BAL: A40
Verve	1. VER1 2. VER2 3. VER6 4. VER8 5. VER11	None	BAL: A40
Linear 100 Series	1. XLR120 2. XLR130 3. XLR140 4. XLR170	The face routes used in the Linear 100 Series XLR doors may vary from 4 mm to 26 mm in width. The maximum depth of the routes is 2 mm and they shall never protrude the facing of the door.	BAL: A40
Accent	1. HAG9 2. HAG11 3. HAG12 4. HAG14 5. HAG18 6. HA4 7. HA5 8. HA40	The face routes used in the Accent HAG and HA doors may vary from 4 mm to 26 mm in width. The maximum depth of the routes is 2 mm and they shall never protrude the facing of the door.	BAL: A40
Flush	BFR400	BFR400 is the basic door leaf without any glazing panels or surface routing.	BAL: A40
All doors	Door jamb and head width	The tested systems consisted of 160 mm wide door jambs and heads.	The door jamb and head width may be reduced down to 138 mm – including any width between 160 mm and 138 mm. Other dimensions must remain the same as tested.

Table 2 shows the rebranded door model names for each of the original door models listed in Table 1.

Table 2 Rebranded door models

Door range	Original door model name	Corresponding rebranded door model name
Newington	1. XN1 2. XN2 3. XN5 4. XN7	1. BFR401 2. BFR402 3. BFR405 4. BFR407

Door range	Original door model name	Corresponding rebranded door model name
	5. XN9 6. XN13 7. XN16	5. BFR409 6. BFR4013 7. BFR4016
Linear 100 Series	1. XLR120 2. XLR130 3. XLR140 4. XLR170	1. BFR4017 2. BFR4018 3. BFR4019 4. BFR4020
Accent	1. HAG9 2. HAG11 3. HAG12 4. HAG14 5. HAG18 6. HA4 7. HA5 8. HA40	1. BFR4020 2. BFR4022 3. BFR4023 4. BFR4024 5. BFR4021 6. BFR4018 7. BFR4025 8. BFR4026

The variations and outcome of this assessment are subject to the limitations and requirements described in Section 2 of this report. The results of this report are valid until 31 July 2024.

Contents

1. Introduction

This report contains the minimum information sufficient for regulatory compliance and refers to the Assessment report FAS190105 R2.3.

The referenced report documents the findings of the assessment undertaken to determine the likely bushfire attack performance of various Hume Doors if tested in accordance with AS 1530.8.1:2007 for BAL: A40 exposure. This assessment was carried out at the request of the sponsors listed in Table 3.

Table 3 Sponsor details

Client	Address
Assessment sponsor 1	Hume Doors & Timber (Aust) Pty Ltd 120 Hume Highway Lansvale, NSW 2166
Assessment sponsor 2	Hume Doors & Timber (Vic) Pty Ltd 33 Remington Drive South Dandenong, VIC 3175
Assessment sponsor 3	Hume Doors & Timber (Qld) Pty Ltd 86 – 92 Mudgee Street Kingston, QLD 4114
Assessment sponsor 4	Hume Doors & Timber (SA) Pty Ltd 89 Heaslip Road Burton, SA 5110
Assessment sponsor 5	Hume Doors & Timber (WA) Pty Ltd 75 Briggs Street Carlisle, WA 6101

2. Framework for the assessment

An assessment is an opinion about the likely performance of a component or element of structure if it were subject to a standard fire test.

No specific framework, methodology, standard or guidance documents exists in Australia for doing these assessments. Therefore, we have followed the Guide to Undertaking Assessments In Lieu of Fire Tests prepared by the Passive Fire Protection Federation (PFPF) in the UK[1].

This guide provides a framework to undertake assessments in the absence of specific fire test results. *'Some areas where assessments may be offered are:*

- Where a modification is made to a construction which has already been tested
- *Interpolation or extrapolation of results of a series of fire resistance tests, or utilisation of a series of fire test results to evaluate a range of variables in a construction design or a product*
- *Where, for various reasons – e.g. size or configuration – it is not possible to subject a construction or a product to a fire test.'*

Assessments will vary from relatively simple judgements on small changes to a product or construction through to detailed and often complex engineering assessments of large or sophisticated constructions.

[1] Guide to Undertaking Assessments In Lieu of Fire Test - The Passive Fire Protection Federation (PFPF), June 2000, UK.

2.1 Declaration

The guide to undertaking assessments in lieu of fire tests prepared by the PFPF in the UK requires a declaration from the client. By accepting our fee proposal dated 15 April 2019, Hume Doors Pty Ltd confirmed that:

- To their knowledge the component or element of structure, which is the subject of this assessment, has not been subjected to a fire test to the standard against which this assessment is being made.
- They agree to withdraw this assessment from circulation if the component or element of structure is the subject of a fire test by a test authority in accordance with the standard against which this assessment is being made and the results are not in agreement with this assessment.
- They are not aware of any information that could adversely affect the conclusions of this assessment and – if they subsequently become aware of any such information, they agree to ask the assessing authority to withdraw the assessment.

3. Description of the specimen and variations

3.1 System description

The tested systems include Hume doors from the Newington range (XN1 and XN5), built into a timber framed separating wall element, tested in accordance with AS1530.8.1:2007 for BAL: A40 exposure.

The proposed doors include Hume doors from other ranges (Verve, Linear 100 Series and Accent).

3.2 Referenced test data

The assessment of the variations to the tested system and the determination of the likely performance is based on the results of the simulated bushfire attack tests documented in the reports summarised in Table 4.

Table 4 Referenced test data

Report number	Test sponsor	Test date	Testing authority
FRT180327 R1.0 (Primary)	Hume Doors & Timber (QLD) Pty Ltd	03 December 2019	Warringtonfire Australia
FRT180326 R1.0 (Supplementary)	Hume Doors & Timber (QLD) Pty Ltd	09 October 2019	Warringtonfire Australia

3.3 Variations to tested products

An identical system has not been subject to a standard fire test. We have therefore assessed the products using baseline test information for similar products. Variations considered in this assessment as follows.

The proposed products considered in the assessment, along with their summary descriptions are presented in Table 5. Figures 1 to 5 show the various Newington (XN), Verve (Ver), Linear 100 Series (XLR), Accent (HAG and HA) doors assessed as part of this variation. Additional considerations for the range of doors considered in the assessment are as follows.

- Proposed hinged doors may be used in hinged door configurations shown in Table 8.
- The facing option for the proposed doors could be plywood with a thickness of 3 mm. Timber veneers for the proposed doors may either be SPM, Tasmanian Oak, Blackbutt, Merbau or other commonly used timber species for such applications with an equivalent density. The proposed thickness of the veneers is less than 0.5 mm. Such veneers are not to be added to the edges of the doors.
- The Newington XN9 door considered for the assessment differs from that shown in Figure 1 such that it consists of the 1675 mm tall × 100 mm wide glazing used in XN1 doors.

- The height of the assessed doors is limited to 2340 mm.
- All these doors specified in Table 5 shall consist of a vermiculite core similar to that used in the tested system in FRT180327 R1.0 with a core thickness not less than 32 mm.
- The tested system consisted of 160 mm wide door jambs and heads. It is proposed that the width of the door jamb and head can be reduced down to 138 mm – including any width between 160 mm and 138 mm. Other dimensions must remain the same as tested.
- Table 6 shows the rebranded door model names for each of the original door models listed in Table 5.

Table 5 Various doors to be assessed

Door range	Item	Additional notes
Newington	1. XN1 2. XN2 3. XN5 4. XN7 5. XN9 with XN1 glass size 6. XN11 7. XN13	The Newington XN9 door considered for the assessment consists of the 1675 mm tall × 100 mm wide glazing used in XN1 doors and not the larger glazing shown in Figure 1 for this door type.
Verve	1. VER1 2. VER2 3. VER4 4. VER6 5. VER8 6. VER11	None
Linear 100 Series	1. XLR120 2. XLR130 3. XLR140 4. XLR170	The face routes used in the Linear 100 Series XLR doors may vary from 4 mm to 26 mm in width. The maximum depth of the routes is 2 mm and they shall never protrude the facing of the door.
Accent	1. HAG9 2. HAG11 3. HAG12 4. HAG14 5. HAG18 6. HA4 7. HA5 8. HA40	The face routes used in the Accent HAG and HA doors may vary from 4 mm to 26 mm in width. The maximum depth of the routes is 2 mm and they shall never protrude the facing of the door.
Flush	BFR400	BFR400 is the basic door leaf without any glazing panels or surface routing.

Table 6 Rebranded door models

Door range	Original door model name	Corresponding rebranded door model name
Newington	1. XN1 2. XN2 3. XN5 4. XN7 5. XN9 6. XN13 7. XN16	1. BFR401 2. BFR402 3. BFR405 4. BFR407 5. BFR409 6. BFR4013 7. BFR4016
Linear 100 Series	1. XLR120 2. XLR130 3. XLR140 4. XLR170	1. BFR4017 2. BFR4018 3. BFR4019 4. BFR4020
Accent	1. HAG9 2. HAG11 3. HAG12 4. HAG14 5. HAG18 6. HA4	1. BFR4020 2. BFR4022 3. BFR4023 4. BFR4024 5. BFR4021 6. BFR4018

Door range	Original door model name	Corresponding rebranded door model name
	7. HA5 8. HA40	7. BFR4025 8. BFR4026

Figure 1 Newington range

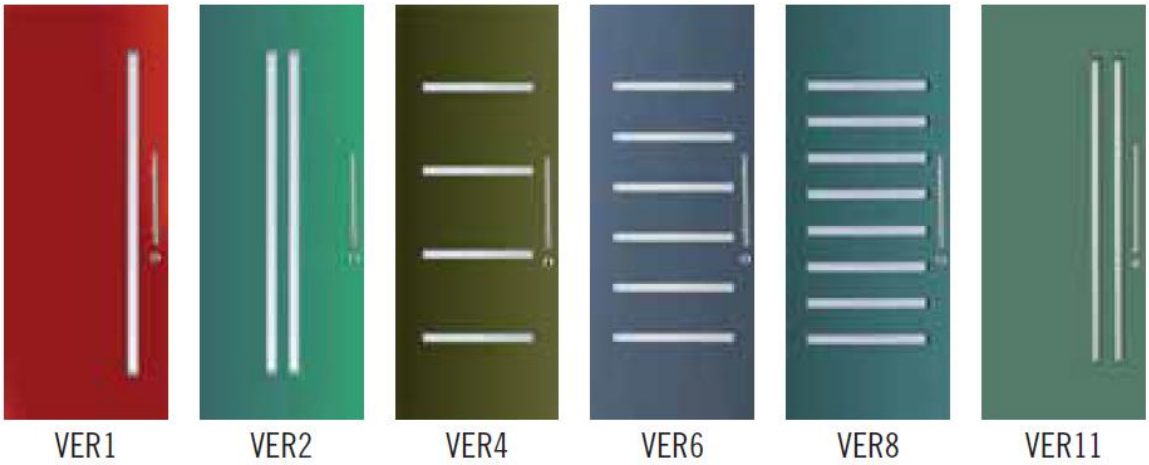


Figure 2 Verve range

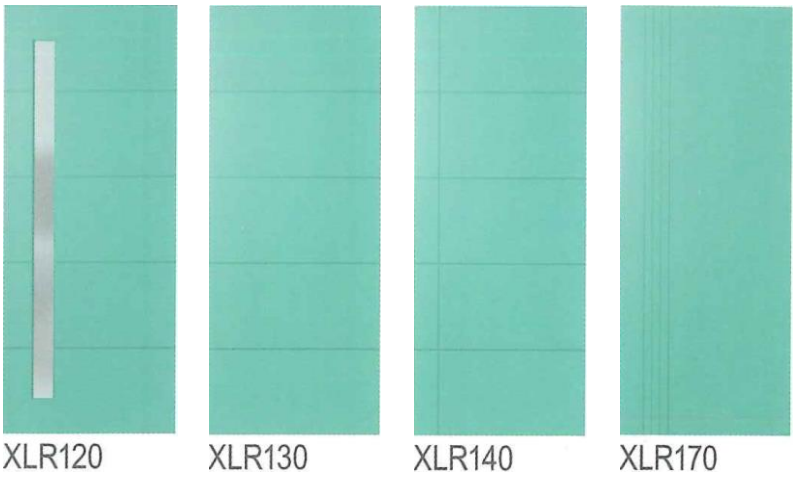


Figure 3 Linear 100 Series

Figure 4 Accent HAG range

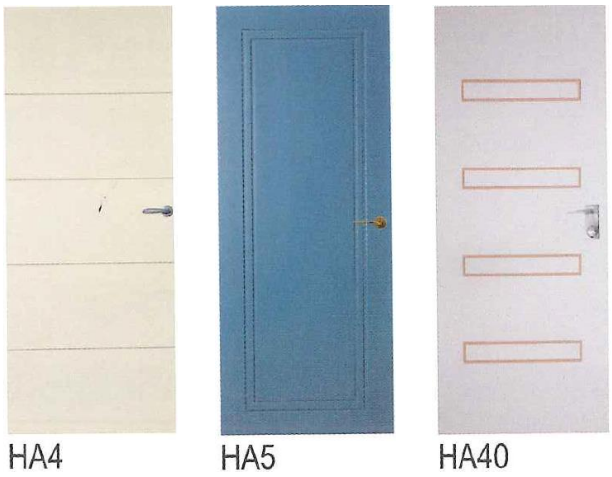


Figure 5 Accent HA range

3.4 Purpose of the test method

AS 1530.8.1:2007 sets out procedures for the assessment elements of construction for buildings exposed to simulated bushfire attack using radiant heat and small flaming sources.

3.5 Schedule of components

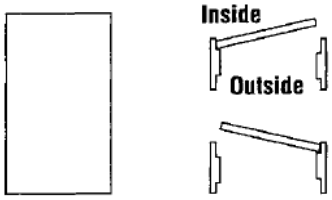
Table 7 outlines the schedule of components for the assessed doors considering the variations described in Section 3.3. Table 8 specifies additional hinged doors for which the assessment results are applicable. Figure 6 shows the elevation of the tested XN5 door.

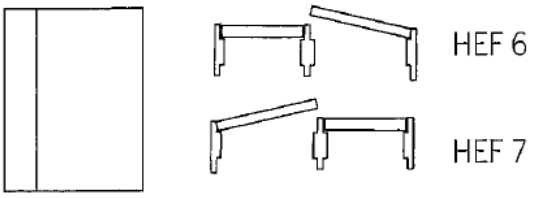
Table 7 Schedule of components for proposed doors

Item	Description			
1.	Name	Door Leaf		
	Product Name	Newington, Linear 100 Series, Verve and Accent range doors identified in Table 5.		
	Overall Size	Up to 2340 mm high and up to 1200 mm wide		
	Specification	Door core	Material	Vermiculite fire core
			Density	470 kg/m^3
			Size	Not less than 32 mm
			Material	Tempered Hardboard or plywood

Item		Description		
		Door Facings	Thickness	3 mm
		Vision panel	Exposed Glazing size	Toughened, not less than 6mm in thickness
		Timber veneers	Material	SPM, Tasmanian Oak, Blackbutt, Merbau or other timber species with equivalent density
			Thickness	Less than 0.5 mm
2.	Name	Door Frame		
	Material	Merbau (Scientific name: Kwila)		
	Density	> 700 kg/m^3		
	Size	Clear opening size: 1170 mm wide × 2315 mm high; Frame reveal size: 1203 mm wide × 2345 mm high; Overall frame size: 1265 mm wide × 2405 mm high.		
	Specification	Door Jamb – 138 mm to 160 mm wide × 40 mm high Overall DRDJ Head – 138 mm to 160 mm wide × 40 mm high Overall DRDJ Sill – 160 mm wide × 38 mm high (aluminium extrusion)		
3.	Name	Hinges		
	Size	100 mm × 75 mm × 2.5 mm thick		
	Material	Steel		
	Locations	240 mm, 1010 mm, 1790 mm and 2090 mm from the bottom of the door leaf to the centre of each hinge.		
4.	Name	Latch set		
	Latch bolt	Zinc Die Cast Bolt		
	Strike plate	Zinc Die Cast		
	Handle	Stainless steel lever		
5.	Name	Door Frame Perimeter Seal		
	Product Name	FR intumescent seal (10 mm)		
	Material	Bush Fire Retardant material (intumescing foam)		
	Location	The seal to be fitted to the stop of the door frame at jambs, head and sill of the frame.		

Table 8 Hinged entry frame size and arrangement

Arrangement	Up to Frame Width (mm)
	1265 + / - 5 mm

	1350 + / - 5 mm

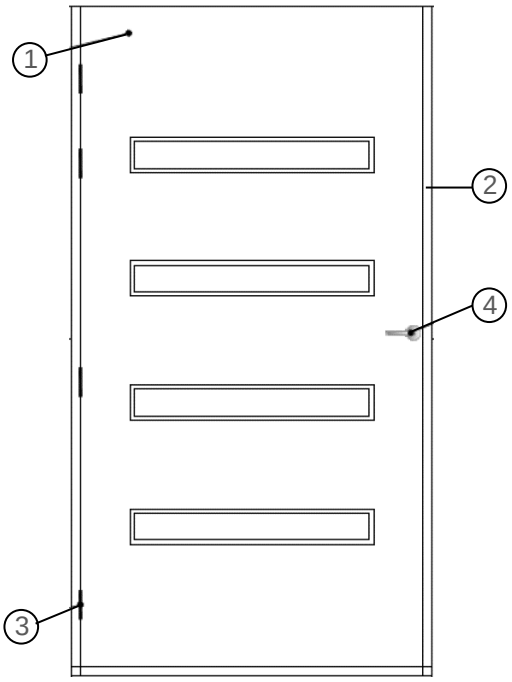


Figure 6 Elevation of tested XN5 door

4. Scope, objective and assumptions

- The scope of this report is limited to an assessment of the variations to the tested systems described in section 3.3.
- This report details the methods of construction, test conditions and assessed results that would have been expected if the specific elements of construction described here had been tested in accordance with AS 1530.8.1:2007.
- The results of this assessment are applicable only to the door types specifically addressed in the assessment, limited to a maximum height of 2340 mm and a maximum width of 1200 mm, subject to the conformity to the density and minimum thickness of the core material specified.
- This report is only valid for the assessed products. Any changes with respect to size, construction details, loads, stresses, edge or end conditions, other than those identified in this report, may invalidate the findings of this assessment. If there are changes to the system, a reassessment will be needed to verify consistency with the assessment in this report.
- The data, methodologies, calculations and conclusions documented in this report specifically relate to the assessed systems and must not be used for any other purpose.
- This report has been prepared based on information provided by others. Warringtonfire has not verified the accuracy and/or completeness of that information and will not be responsible for any errors or omissions that may be incorporated into this report as a result.

5. Conclusion

The assessment conducted in Section 5 of the referenced assessment report found that the proposed variations are likely to achieve BAL: A40 as shown in Table 9, if tested in accordance with AS 1530.8.1:2007.

Table 9 Variations and assessment outcome

Door range	Door model / Item	Additional notes	Outcome / BAL rating
Newington	1. XN1 2. XN2 3. XN5 4. XN7 5. XN9 6. XN13 7. XN16	The Newington XN9 door considered for the assessment consists of the 1675 mm tall × 100 mm wide glazing used in XN1 doors and not the larger glazing shown in Figure 1 for this door type.	BAL: A40
Verve	1. VER1 2. VER2 3. VER6 4. VER8 5. VER11	None	BAL: A40
Linear 100 Series	1. XLR120 2. XLR130 3. XLR140 4. XLR170	The face routes used in the Linear 100 Series XLR doors may vary from 4 mm to 26 mm in width. The maximum depth of the routes is 2 mm and they shall never protrude the facing of the door.	BAL: A40
Accent	1. HAG9 2. HAG11 3. HAG12 4. HAG14 5. HAG18 6. HA4 7. HA5 8. HA40	The face routes used in the Accent HAG and HA doors may vary from 4 mm to 26 mm in width. The maximum depth of the routes is 2 mm and they shall never protrude the facing of the door.	BAL: A40
Flush	BFR400	BFR400 is the basic door leaf without any glazing panels or surface routing.	BAL: A40
All doors	Door jamb and head width	The tested systems consisted of 160 mm wide door jambs and heads.	The door jamb and head width may be reduced down to 138 mm – including any width between 160 mm and 138 mm. Other dimensions must remain the same as tested.

Table 10 shows the rebranded door model names for each of the original door models listed in Table 9.

Table 10 Rebranded door models

Door range	Original door model name	Corresponding rebranded door model name
Newington	1. XN1 2. XN2 3. XN5 4. XN7 5. XN9 6. XN13 7. XN16	1. BFR401 2. BFR402 3. BFR405 4. BFR407 5. BFR409 6. BFR4013 7. BFR4016
Linear 100 Series	1. XLR120 2. XLR130 3. XLR140 4. XLR170	1. BFR4017 2. BFR4018 3. BFR4019 4. BFR4020
Accent	1. HAG9 2. HAG11 3. HAG12 4. HAG14 5. HAG18 6. HA4 7. HA5 8. HA40	1. BFR4020 2. BFR4022 3. BFR4023 4. BFR4024 5. BFR4021 6. BFR4018 7. BFR4025 8. BFR4026

6. Validity

Warringtonfire Australia does not endorse the tested or assessed product in any way. The conclusions of this assessment may be used to directly assess fire hazard, but it should be recognised that a single test method will not provide a full assessment of fire hazard under all conditions.

Due to the nature of fire testing and the consequent difficulty in quantifying the uncertainty of measurement, it is not possible to provide a stated degree of accuracy. The inherent variability in test procedures, materials and methods of construction, and installation may lead to variations in performance between elements of similar construction.

This assessment is based on information and experience available at the time of preparation. The published procedures for the conduct of tests and the assessment of test results are subject to constant review and improvement. It is therefore recommended that this report be reviewed on or, before, the stated expiry date.

This assessment represents our opinion about the performance likely to be demonstrated on a test in accordance with AS1530.8.1:2007, based on the evidence referred to in this report.

This assessment is provided to Hume Doors & Timber (Aust) Pty Ltd, Hume Doors & Timber (Vic) Pty Ltd, Hume Doors & Timber (Qld) Pty Ltd, Hume Doors & Timber (SA) Pty Ltd, Hume Doors & Timber (WA) Pty Ltd for their own purposes and we cannot express an opinion on whether it will be accepted by building certifiers or any other third parties for any purpose.